



# **AOC WEAPON SYSTEM UPDATE**

**This briefing is  
UNCLASSIFIED**

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AC2ISRC/A3**



# PURPOSE

- **AOC Weapon System Corona briefing covered DOTMLP**
- **This briefing will provide an update on efforts to improve the AOC Weapon System**
  - **What is the AOC**
  - **CONOPS: As-Is and To-Be**
  - **Ops Architecture: As-Is and To-Be**
  - **ESC produced AOC CONOPS model**
  - **Results of 25 Oct 00 AOC SDIPT**
  - **CAOC-X equipment and manpower**
  - **Manning concepts and training**



# THE AOC: WHAT IS IT?

**Extract fm COMACC  
Corona Brief**





# AOC DEFINITION

- **Personnel, equipment, and capabilities through which JFACC commands and controls aerospace forces**
  - Centralized control / decentralized execution
  - Effects based
- **Characteristics**
  - Professional - trained, dedicated personnel
  - Standardized - equipment, applications, processes

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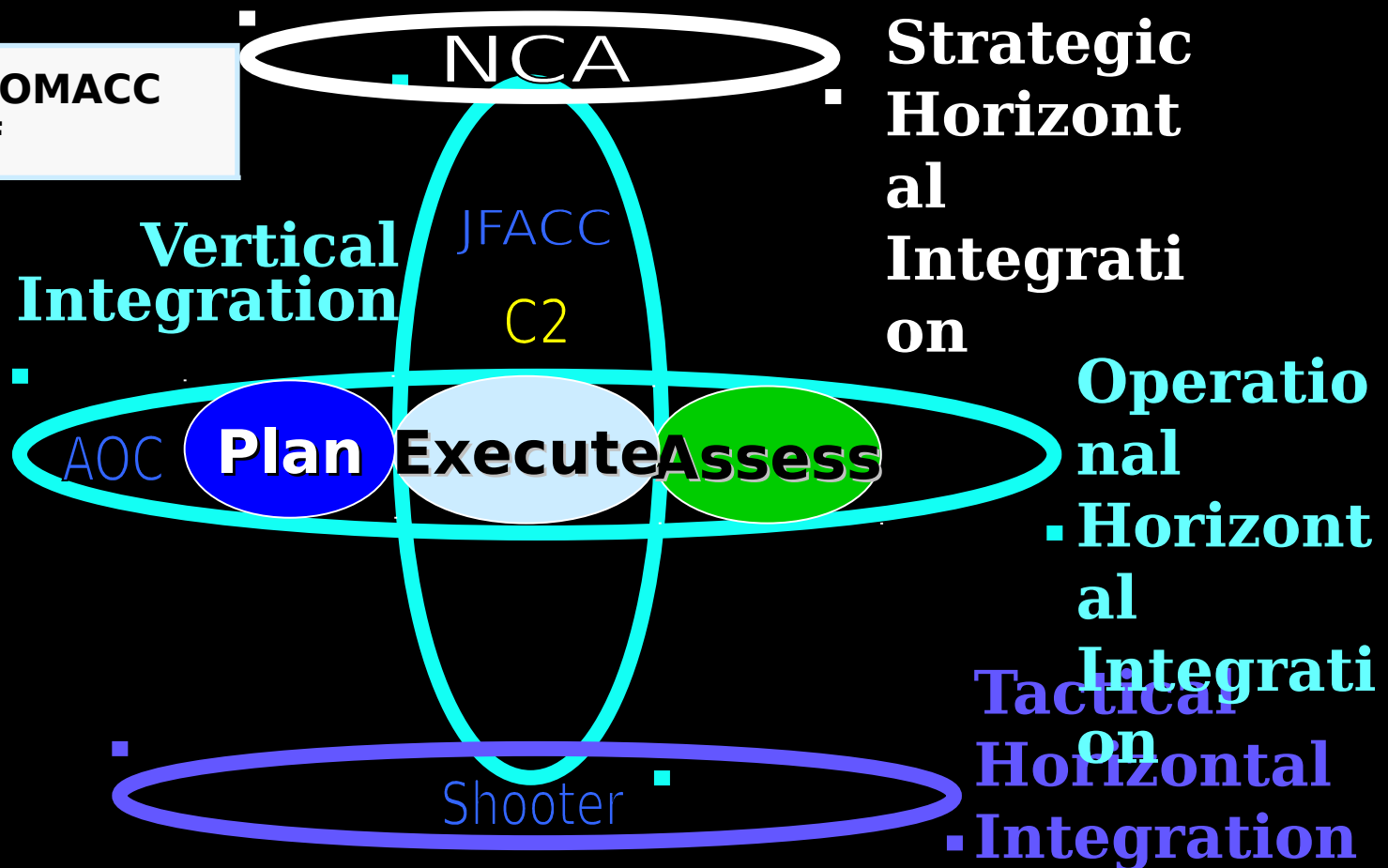
**The Science of Control  
to Enable the Art of Command**



# AOC FUNCTIONS

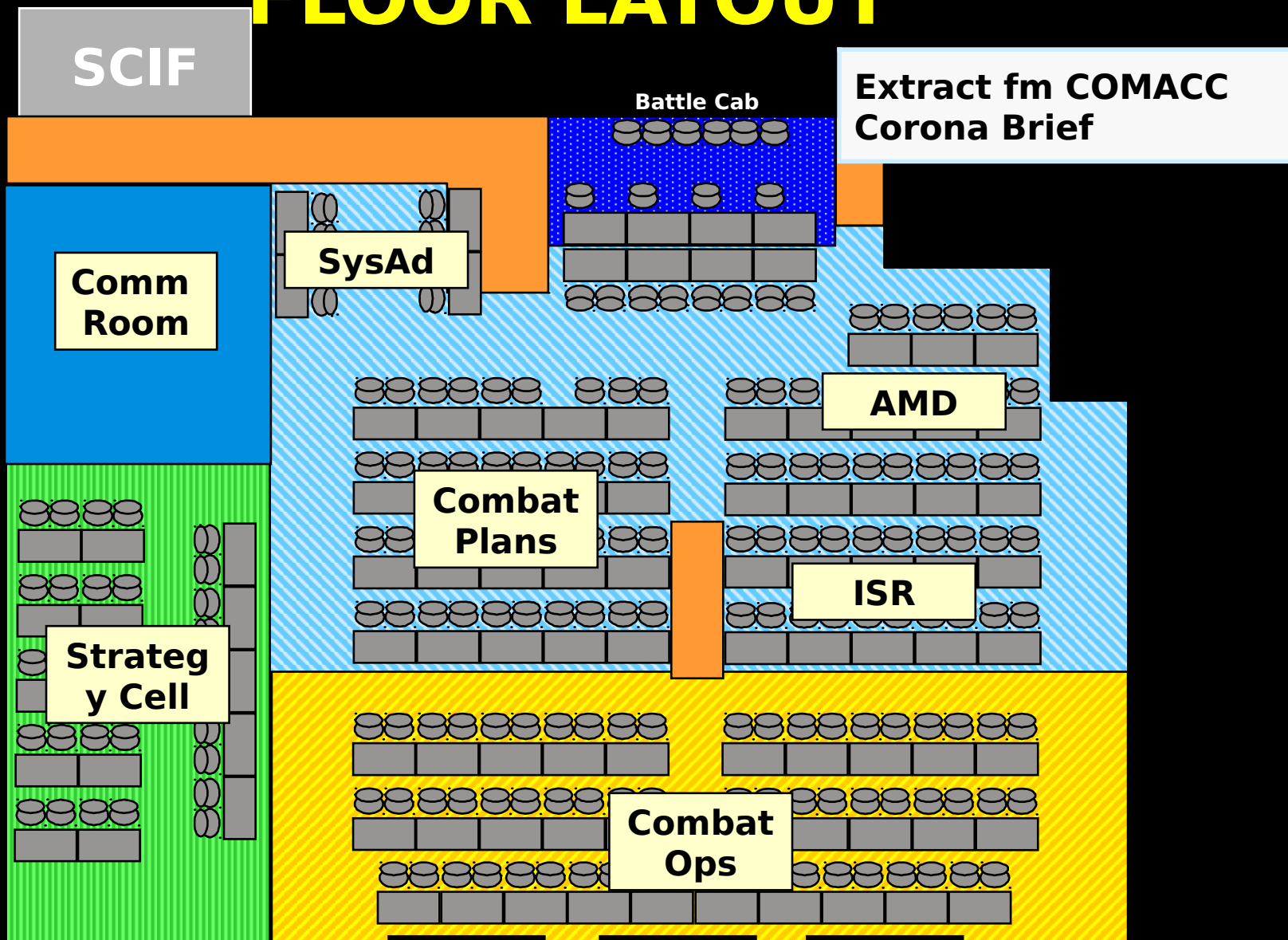
- Planning, Execution, and Assessment
- Vertically and Horizontally Integrated

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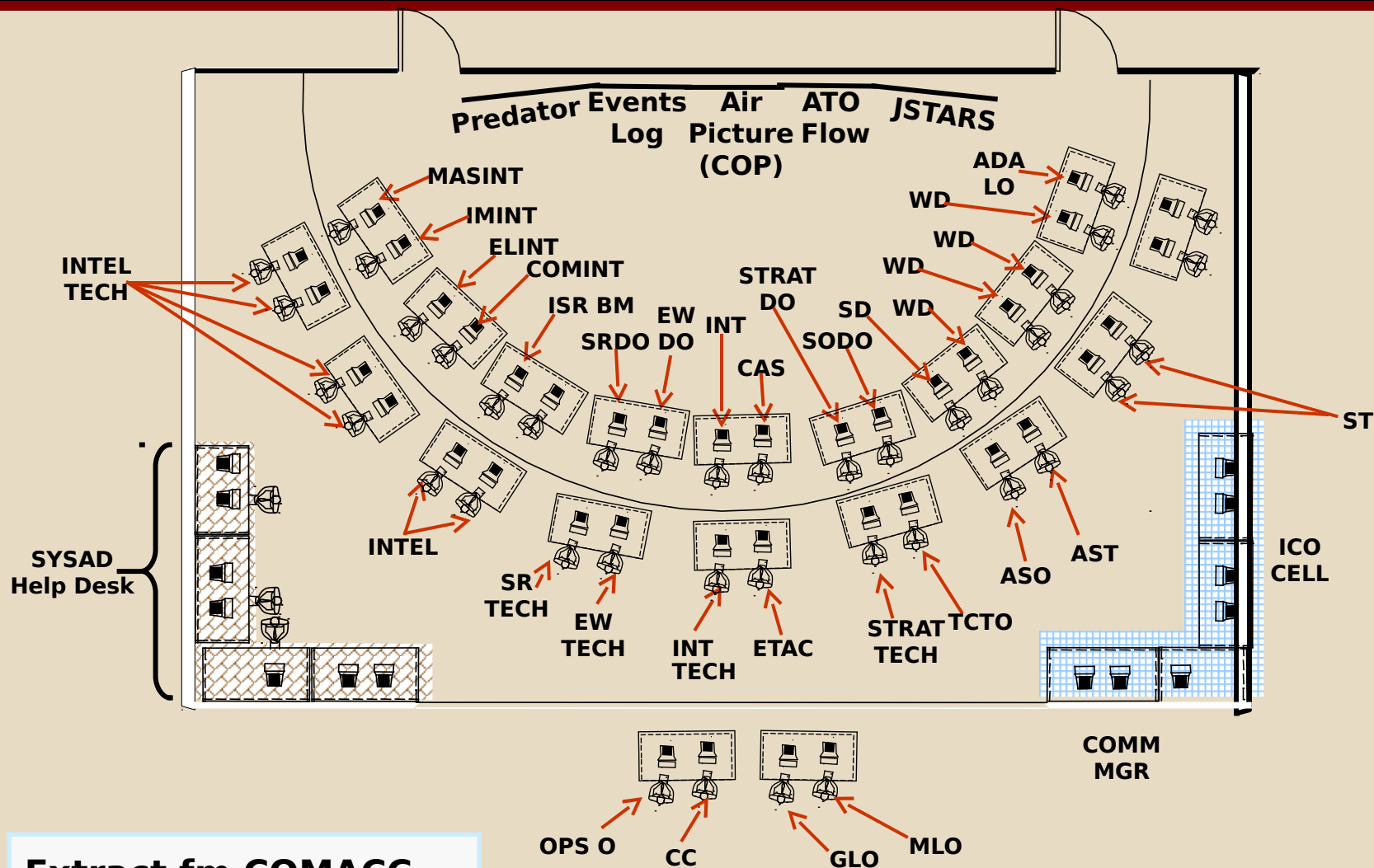


# NOTIONAL AOC FLOOR LAYOUT





# NOTIONAL AOC LAYOUT



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# AOC WPNS SYSTEM OVERVIEW

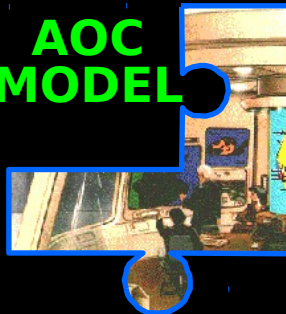
CONOPS



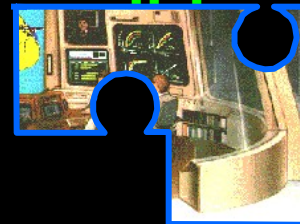
ARCHITECTURES



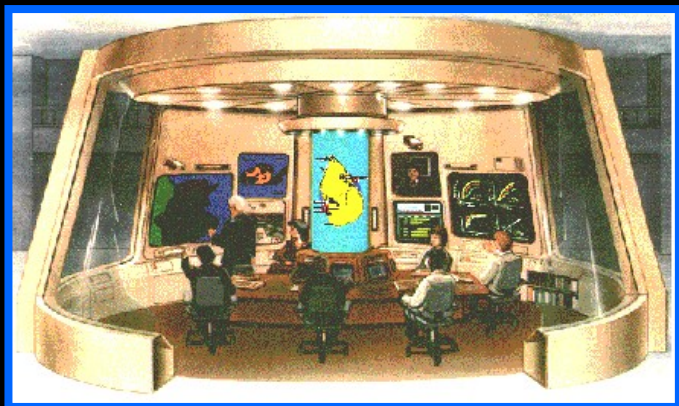
AOC  
MODEL



SPIRAL  
DEVELOPMENT  
IPT



CAOC-X



WARFIGHTING  
CAPABILITY







# CONOPS EFFORTS

CONOPS



- **AF C2&ISR CONOPS**
  - “As-Is” in MAJCOM two-digit coordination
  - “To-Be” in draft, MAJCOM conference Nov 00
- **Theater Air Control System CONOPS**
  - Final draft due 29 Nov 00
- **AF AOC CONOPS**
  - Out for MAJCOM/CC coordination
- **CAF CONOPS for Integration of C2&ISR**
  - In MAJCOM two-digit coordination
- **CAF CONOPS for C2 Against Time Critical Targets**
  - Approved 97
  - To be updated 1 Qtr CY01



# DEVELOPMENT PROCESS FOUNDATION (AFI 33-

CONOPS  
124)

*One  
Architecture-  
Three Views*



Identifies Operational  
Requirements  
And Information Needs

Information  
Flow

Standards

Rules

**Technical  
View**

Prescribes  
Standards and  
Conventions

Conventions

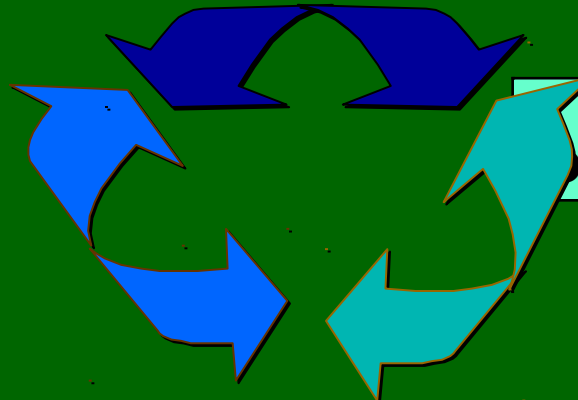
Systems

Information  
Flow

**Systems  
View**

Relates Capabilities to  
Operational Requirements

Communications





# **'AS-IS' OPERATIONAL ARCHITECTURE**

ARCHITECTURES



- **Version 1.0 (Theater Focus) - Released Aug 00**
- **AF theater C2&ISR nodes**
  - **High-level activities and major information exchanges**
  - **MTW focus, 2000-2004 timeframe**
  - **Products: AV-1/2, OV-1/2/3/4 (6-page brochure and CD)**
  - **Includes AOC Functional Decomposition**
  - **Defines As-Is AOC Activities in more detail**
    - **NAF review/validation underway**
    - **ESC TBMCS architecture office reviewing**



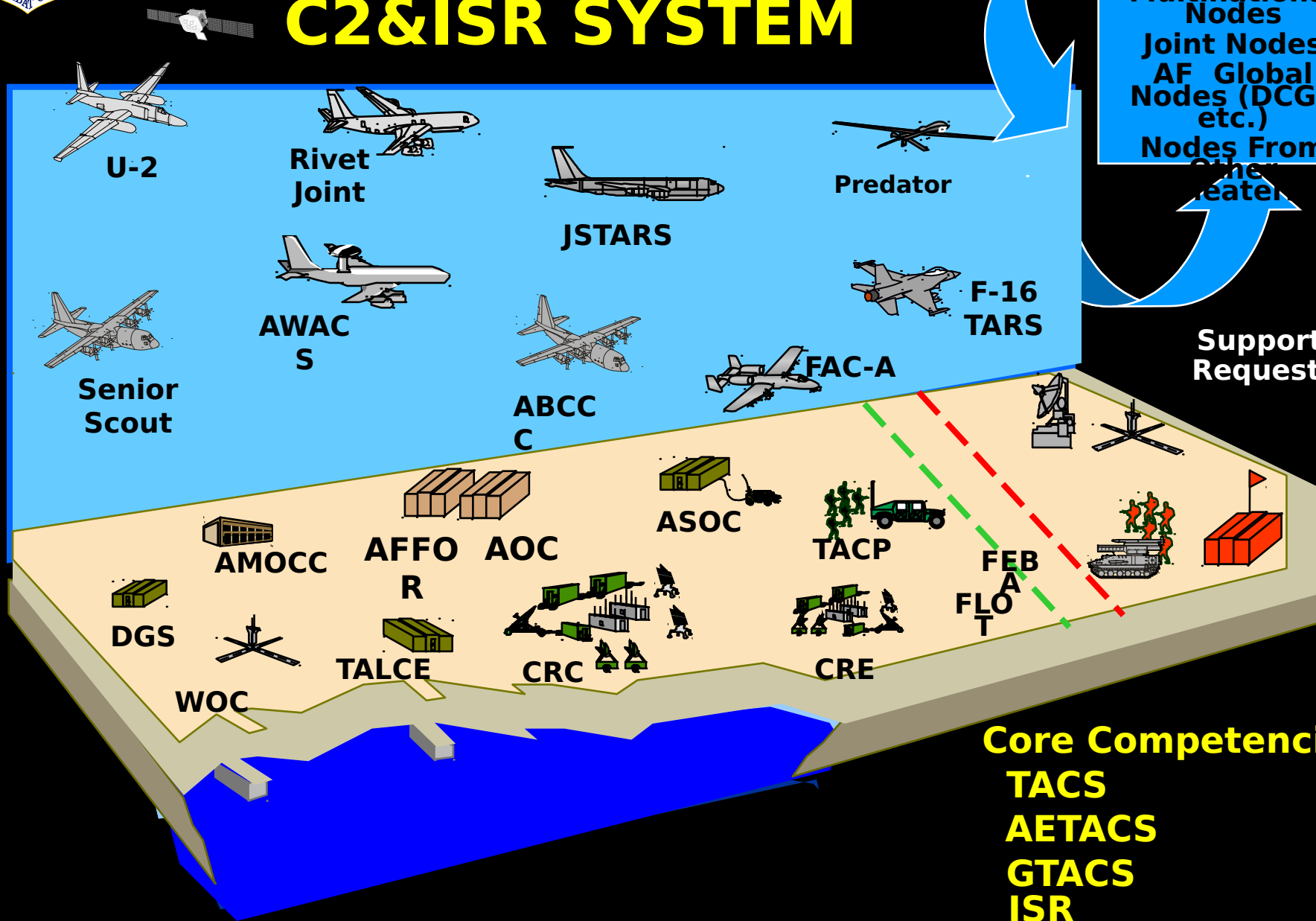
# OPS VIEW-1 AF THEATER C2&ISR SYSTEM

Reachback  
Support

OV-1

National Nodes  
Multinational Nodes  
Joint Nodes  
AF Global Nodes (DCGS etc.)  
Nodes From Other Theater

Support Requests





# **'TO-BE' OPERATIONAL ARCHITECTURE**

**ARCHITECTURES**



- **First Increment—Due 8 Dec 00**
- **AF theater C2&ISR capabilities**
  - **High-level activities and major information flows**
  - **MTW focus, 2005-2013 timeframe**
  - **“Evolved” from As-is Activities Using Critical Capabilities as a guide**
  - **Products: AV-1/2, OV-1/2/3**



# AOC EXECUTABLE MODEL

AOC  
MODEL



- **ESC built executable model of AOC**
  - **Process based – models AOC CONOPS**
  - **Now matching model to ops architecture**
  - **Next align systems architecture to ops architecture**
  - **Will identify holes, bottlenecks, and redundancies**







# AOC SDIPT

**SPIRAL  
DEVELOPMENT  
IPT**



- **CAOC-X Phase I baseline agreed on**
  - **Primarily Desert Shift support**
- **AOC Baseline established**
  - **Common baseline of equipment with theater specific “extensions”**
- **Voting membership**
  - **Users, developers, testers**
  - **MAJCOM O-6 level**



# CAOC-X

CAOC-X



- **Capabilities based, must address an operational need**
  - **Collaborative C2 Centers**
  - **NATO and Coalition interoperability**
  - **Reduced planning time**
  - **ISR battle management**
  - **Reduced forward footprint**
  - **Predictive Battlespace Awareness**
  - **Time Critical Targeting**

## Contributors

**AFMC**

**ACC**

**AFSPC**

**AMC**

**USAFE**

**ESC**

**AFRL**

**AC2ISRC**

**497<sup>th</sup> IG**



Assessment  
of current  
toolset

CAOC-X  
systems

	PLAN				EXECUTE			ASSESS		
	STRATEGY	GAT	MAAP	ATO PRODUCTION	FIXED TARGET	PLANNED DYNAMIC	TIME CRITICAL TARGETS	OPERATIONAL ASSESSMENT	COMBAT ASSESSMENT	PROCESS ASSESSMENT
TBMCS				✓	✓	✓				
Master Battle Planner		✓	✓	✓						
Joint Targeting Toolkit	✓						✓	✓	✓	
ISRBM	✓					✓	✓	✓	✓	
XML ATO				✓	✓	✓	✓			
Coal Warfighter	✓				✓	✓	✓	✓	✓	
Broadsword	✓				✓	✓	✓	✓		
J FACC Cockpit	✓						✓	✓		
IWS	✓	✓	✓		✓	✓	✓	✓		✓
ELVIS II					✓	✓	✓	✓		
SBMCS		✓	✓	✓	✓			✓		
NATO ICC	NATO INTEROPERABILITY									

Current  
capability  
adequate

Current  
capability  
limited

Currently no  
integrated  
toolset

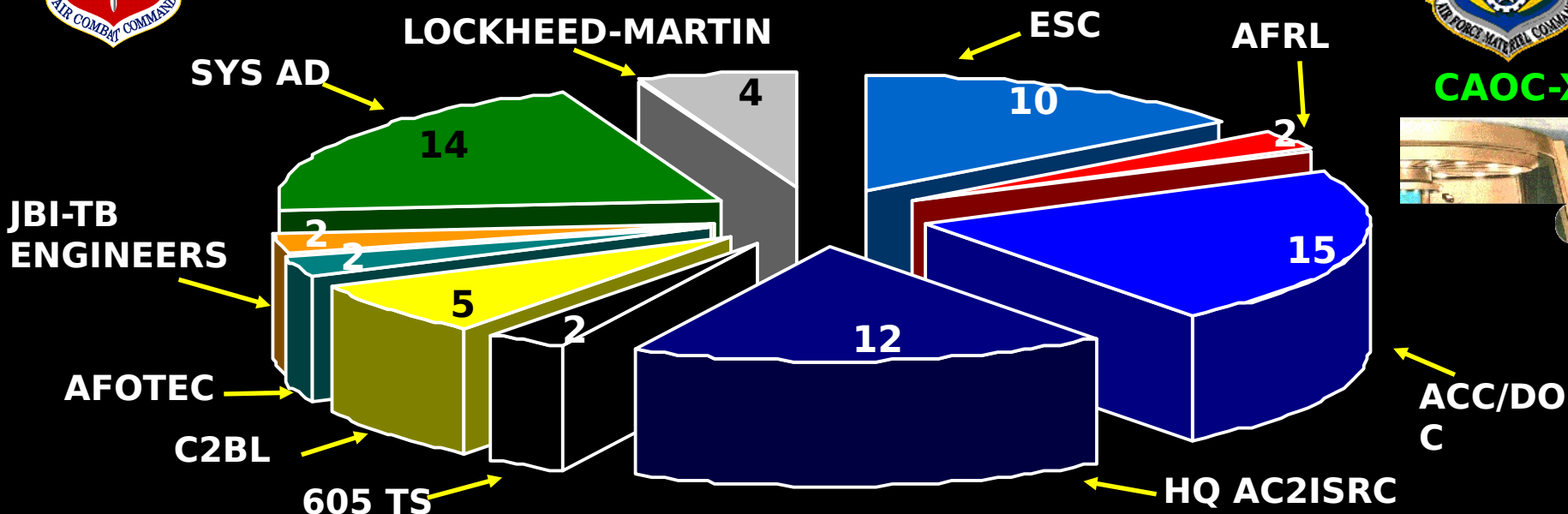
Checkmarks  
indicate  
applicability to  
processes



# CAOC-X MANPOWER



CAOC-X



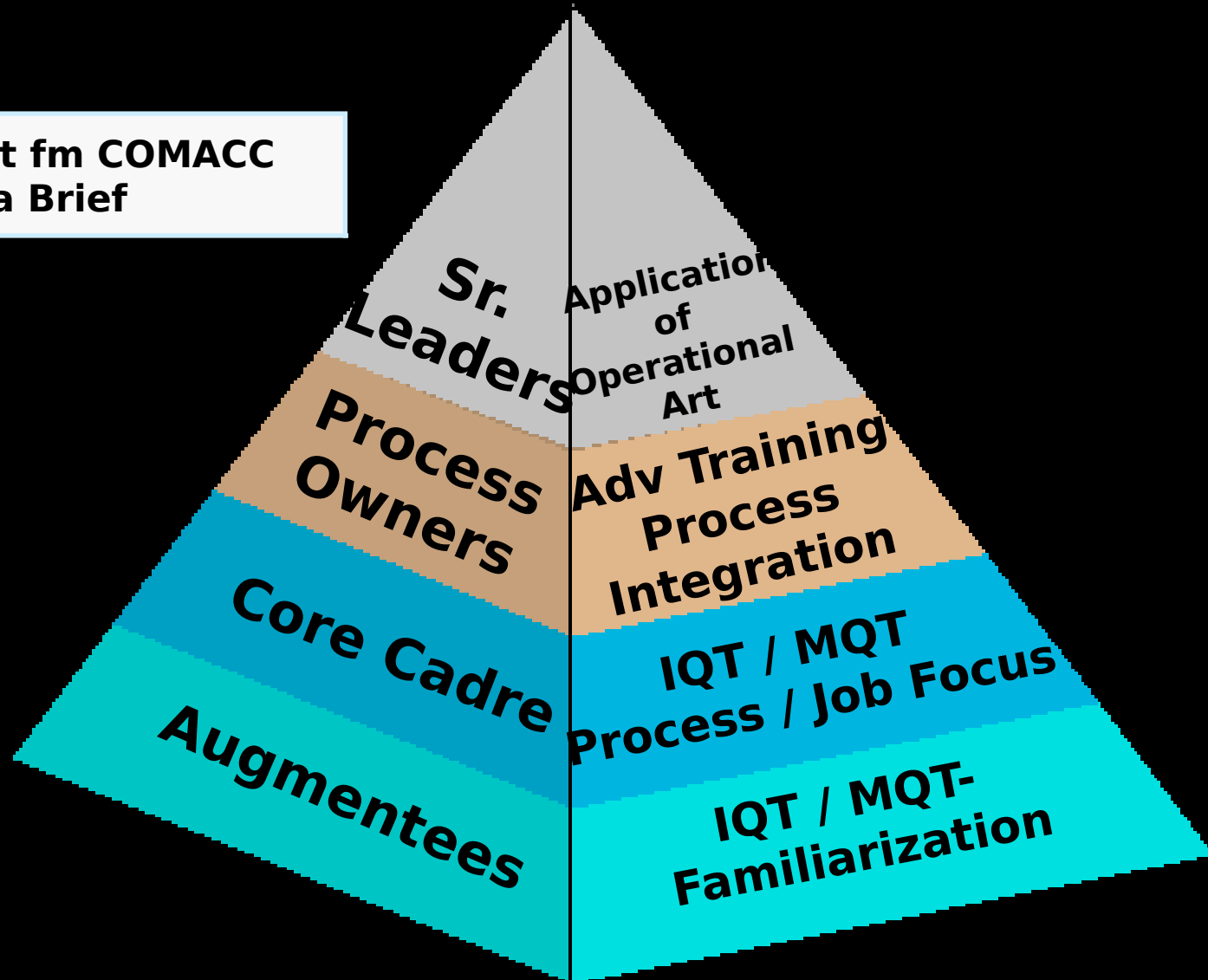
ESC
AFRL
ACC/DOC
HQ AC2ISRC
605 TS
C2BL
AFOTEC
JBI-TB ENGINEERS
SYS AD
LOCKHEED-MARTIN
TOTAL

OFFICER	ENLISTED	CONTRACTOR	TOTAL
2	0	8	
10	0	2	
0	2	0	12
2	15	1	5
6	12	1	1
1	2	0	0
5	5	0	1
1	2	0	



# MANNING CONCEPTS & TRAINING

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# Training C2 Pipeline

DOTML-P

Air Crew Course	AOC Equivalent	Qualification	Status
UPT		AFSC Awarding	N/A
RTU	JAC2C	IQT	
Unit	NAF Positional Check Out	MQT / CT	
Mission Cmdr / IP	C2WAC	Instructor	
	JSSC	Senior Training	
	JFACC/C	Adv Senior Trng	

**JAC2C trains 55% of the users on 20% of the IQT requirements.**

**C2WAC - C2 Warrior Advanced Course  
Senior Staff Course**

**JSSC - Joint Air Operations**

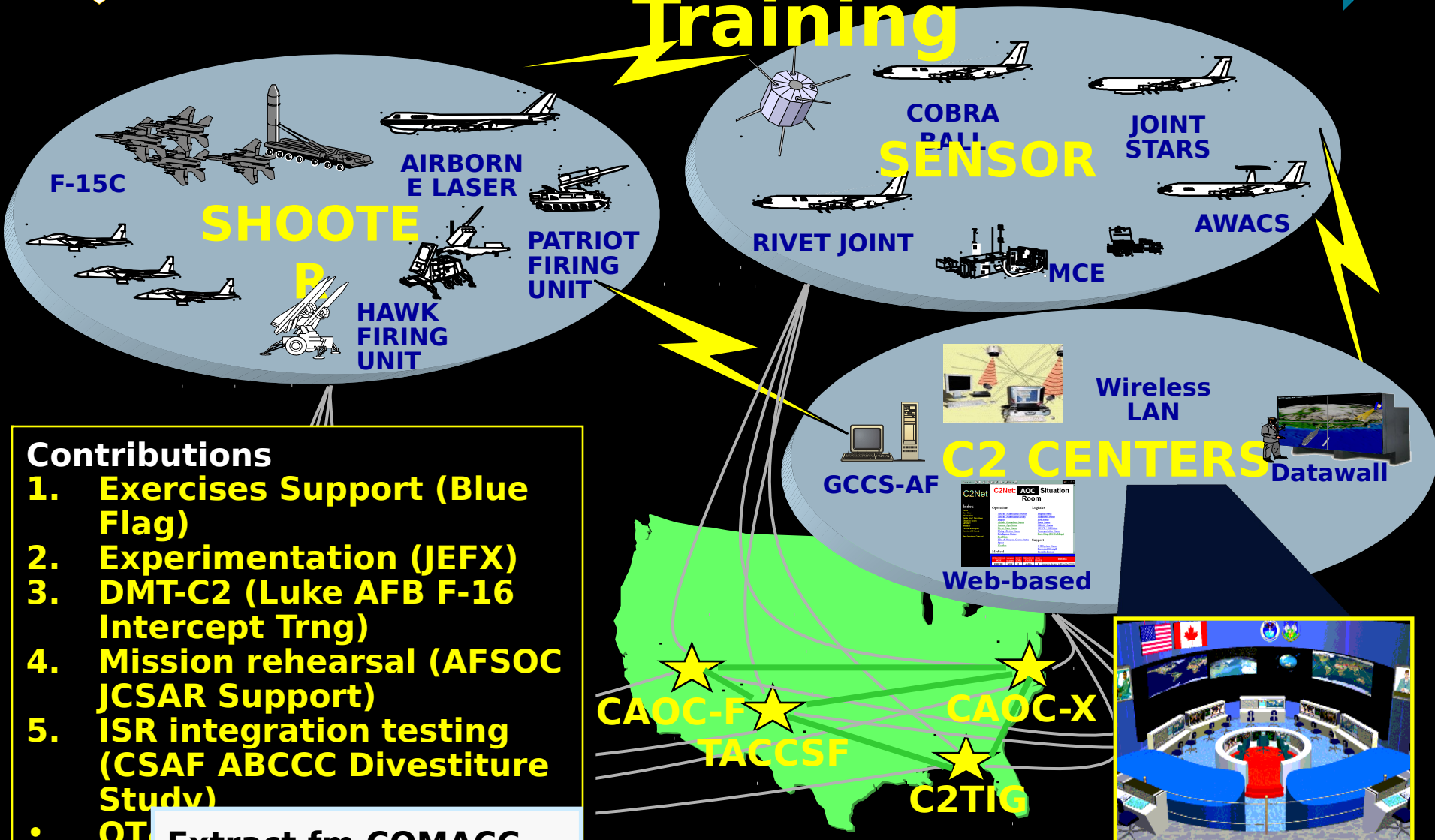
**JFACC/C - Joint Forces Air Component Commander Course  
C2 Course**

**JAC2C - Joint Aerospace**



# Training Distributed Mission Training

DOTML-P



## Contributions

1. Exercises Support (Blue Flag)
  2. Experimentation (JEFX)
  3. DMT-C2 (Luke AFB F-16 Intercept Trng)
  4. Mission rehearsal (AFSOC JCSAR Support)
  5. ISR integration testing (CSAF ABCCC Divestiture Study)
- OT

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# ISSUES

- **Funding**
- **Manning**
- **Continue to match system architecture to ops architecture and fold into process model**



# SUMMARY

- CAOC-X is the path ahead
- Still working multiple issues



**WARFIGHTING  
CAPABILITY**







# CAOC-X



CAOC-X



- **Capabilities based, must address an operational need**
  - Collaborative C2 Centers
  - NATO and Coalition interoperability
  - Reduced planning time
  - ISR asset management
  - Reduced forward footprint
  - Predictive Battlespace Awareness
  - Time Critical Targeting
- **Manning**
  - Operators: ACC/DOC
  - Developers: ESC, industry, battle labs
- **Equipment: need an improved cooperative effort**